'BRS CAMPEIRO': NEW BLACK BEAN CULTIVAR RECOMMENDED FOR THE SOUTH REGION OF BRAZIL

José Eustáquio de Souza Carneiro[1], Luís Cláudio de Faria[2], Pedro Antônio Arraes Pereira[2], Maria José Del Peloso[2], Carlos Agustín Rava[2], Joaquim Geraldo Cáprio da Costa[2], Geraldo Estevam de Souza Carneiro[3], Dino Magalhães Soares[2], José Luiz Cabrera Díaz[2], Leonardo Cunha Melo[2], Airton Nonemacher de Mesquita[4], Josias Correa de Faria[2], Heloísa Torres da Silva[2], Aloisio Sartorato[2], Priscila Zaczuk Bassinello[2] and Francisco José Pfeilsticker Zimmermann[2]

[1]Universidade Federal de Viçosa, Av. P.H. Rolfs s/n, 36570-000 Viçosa, MG, Brazil
[2]Embrapa Arroz e Feijão, Caixa Postal 179, 75375-000 Santo Antônio de Goiás, GO, Brazil
[3]Embrapa Soja, Caixa Postal 231, 86001-970 Londrina, PR, Brazil
[4]Embrapa Trigo, Caixa Postal 451, 99001-970 Passo Fundo, RS, Brazil

Common beans is an important source of protein for the Brazilian people, especially those of low income, with a "per capita" consumption of 13.6 kg and a total production of 2.37 million tons in the 2001/2002 year. These numbers rank Brazil as the largest producer and consumer of common beans in the world. There is regional preference as to the seed color, with the carioca type predominating over the country. Overall consumption of black beans reach 17%, mainly for the State of Rio de Janeiro and those of the South Region.

The cultivar BRS Campeiro is the result of a mutational program to alter the color of the tegument of cultivar Corrente, developed by Embrapa Rice and Beans.

Seeds of the cultivar Corrente, cream color, were submitted to gamma radiation at the Nuclear Energy Center for Agriculture (CENA) at the University of Sao Paulo, Piracicaba, SP. Progenies from M_1 to M_6 were then conducted at Embrapa Rice and Beans to select for seed type and plant architecture by the pedigree method of breeding associated to bulk selection. Some breeding lines were selected at the initial steps and evaluated in replicated trials. From these emerged the line MT 95202057, with black seed, upright growth habit and superior yield potential.

From a total of 34 field trials for cultivar conducted in the South Region of Brazil MT 95202057 showed 32% greater seed yield than the average of the control cultivars (Table 1). With such a result, BRS Campeiro was released in 2003 for cultivation in the South Region of Brazil for the wet and dry cropping seasons.

Table 1. Yield of BRS Campeiro compared to the mean of two controls in the field trials from 1999 to 2002.

State	BRS Campeiro (kg/ha)	Mean for controls[1] (kg/ha)	Relative yield (%)	Number of trials
Rio Grande do Sul	1939	1550	125	5
Santa Catarina	2695	2060	131	17
Parana	2519	1857	137	12
Mean	2519	1907	132	-

[1]Controls: Diamante Negro and FT Nobre.

The cultivar BRS Campeiro has excellent seed color uniformity and a mass of 25.4 g per 100 seeds, besides high cooking quality (Table 2).

Table 2. Technological and industrial quality of seeds from the cultivar BRS Campeiro compared to other black bean cultivars.

Cultivar	Cooking time (minutes)	Soluble Solids(%)	Broth Color	Protein (%)	Fiber (%)	Tegument (%)
BRS Campeiro	25.00	8.86	Dark	22.80	14.00	8.84
BRS Valente	28.10	10.91	Light[1]	19.25	9.70	11.75
FT Nobre	28.48	11.05	Light[1]	21.60	----	13.48
Rio Tibagi	36.00	12.40	Dark	20.00	12.50	13.10
Diamante Negro	34.02	11.20	Light[1]	20.00	10.00	11.40

[1]Chocolate brown.

Under artificial inoculation BRS Campeiro shows resistant reaction to the bean common mosaic virus (I gene) and intermediate reaction to the *C. lindemutianum* pathotypes 89, 89-AS, 95 e 453. Under field conditions, it showed intermediate reaction to rust and angular leaf spot, and susceptibility to common bacterial blight.

The cultivar BRS Campeiro has upright plant habit under all growing conditions evaluated. It has also good resistance to plant lodging during its cycle of 85 days from emergency to physiological maturity.

Due to its high yielding potential and excellent cooking quality, upright plant architecture and resistance to lodging, the cultivar BRS Campeiro is a new option for black bean growers in the States of Rio Grande do Sul, Santa Catarina and Parana, for the wet and dry cropping seasons.

Genetic seed stocks are maintained by Embrapa Rice and Beans and basic seed is available at Embrapa Technology Transfer.

Institutions of participating scientists:

Embrapa Arroz and Feijão; Embrapa Trigo; Epagri - Empresa de Pesquisa Agropecuária e Extensão Rural de Santa Catarina; Coopercampos; Cefet0-Pato Branco; Iapar - Instituto Agronômico do Paraná; Embrapa Negócios para Transferência de Tecnologia/Escritório de Negócios de Ponta Grossa.

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